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Beyond Race and Gender: Measuring Behavioral and Social Indicators of Pain Treatment Satisfaction in Older Black and White Cancer Patients

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Abstract

There are a number of factors that influence compliance with prescribed plans of care. However, there remains a need to identify the collective source health, behavioral, and social constructs have on treatment satisfaction. This study aimed to identify indicators of pain treatment satisfaction among older adults receiving outpatient treatment from a comprehensive cancer center in the southeast region of the United States. Data included a sample of 149 Black and White patients diagnosed with cancer, with the majority being White (85%) and female (57%). Patients were surveyed on questions assessing pain treatment satisfaction, pain severity, and additional social characteristics. A series of multivariate models were specified, whereby patients reporting multiple chronic conditions, poor communication, and perceived discrimination were less satisfied with treatment. Positive communication, higher self-efficacy, and fewer perceived discriminatory acts were significant among the female patients only. These findings suggest the need to develop clinical models that assess how these factors influence the degree of treatment satisfaction, while providing a comprehensive mechanism by which to service the long-term needs of older adults.

Keywords

treatment satisfaction, multiple chronic conditions, pain, older adults, sex differences

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Introduction

Reports from the Surveillance, Epidemiology, and End Results Program (SEER) show all cancer sites are most frequently diagnosed among those 65 to 74 years of age, with the median age at diagnosis being 65 years (National Cancer Institute [NCI], SEER, 2014). Data further show that for all new cases, 25.8% are among those 65 to 74 years of age, compared with 24.3% and 14% among those 55 to 64 and 45 to 54 years of age, respectively. Accordingly, The incidence of cancer diagnoses among those 65+ years of age is expected to increase by 67% (1.0 million to 1.6 million cases) between 2010 and 2030 (Smith, Smith, Hurria, Hortbagyi, & Buchholz, 2009). Such a diagnosis among this patient population implies longer survival with the disease, along with more debilitating physical, social, and emotional outcomes (pain, fatigue, mood disorders). Recognized as a common symptomatic outcome of many cancer diagnoses (Caltagirone, Spoletini, Gianni, & Spalletta, 2010; Costantino et al., 2009; McMillan, Tofthagen, & Morgan, 2008; Stark, Tofthagen, Visovsky, & McMillan, 2012; Stromgren et al., 2006), an estimated 40% to 50% of all cancer patients report experiencing some amount of pain, with rates increasing between 70% to 90% among those in more advanced stages (Panteli & Patistea, 2007; Yildirim, Cicek, & Uyar, 2009).

Cancer-related pain has been associated with psychological distress and diminished quality of life (Hirsh et al., 2005; Panteli & Patistea, 2007), and if left untreated, it may impact how satisfied a patient is with

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their health care. Defined as an individual's positive evaluation of dimensions of healthcare (Linder-Pelz, 1982), patient satisfaction is a direct approach to measuring perceived symptomatic outcomes, while underscoring the influence identified factors have in the degree of satisfaction (Corizzo, Baker, & Henkelmann, 2000). This is particularly relevant in reports of satisfaction with pain treatment. Studies show that patients most satisfied with their pain treatment are more likely to comply with prescribed medical regimens and adhere to the advice of their primary healthcare provider (Hirsh et al., 2005).

The dynamics of the patient–physician relationship has been shown to directly influence treatment, where satisfaction with treatment is often determined by the patient's trust and comfort in communicating his or her concerns (Coelho, & Galan, 2012; Janssen, & Lagro-Janssen, 2012; Moore et al., 2012; Peek, Wagner, Tang, Baker, & Chin, 2011). This is similarly approached in measures of pain treatment satisfaction, where patients who report being dissatisfied with their pain treatment also perceived poor communication and a lack of empathy from their healthcare provider (Chan & Azman, 2012; Dawson et al., 2002; Krupat et al., 2000; Peck, 2011; Shaw, Zaia, Pransky, Winters, & Patterson, 2005; Shill et al., 2012).

Recent studies show that patients who perceived their healthcare provider as friendly, caring, and respectful were equally satisfied with their overall care (Moore et al., 2012). Specific to pain treatment, data further show that patients who perceived having a positive relationship with their provider were more likely to agree with treatment recommendations, experience less anxiety related to their pain, and were more satisfied with their care (Hirsh et al., 2005). Thus, satisfaction with pain treatment may depend less on symptom relief but more on social and provider level factors that impact the degree of satisfaction (Sun et al., 2007; Sun et al., 2012). This may be particularly relevant among older adults who are more likely to have their pain under-diagnosed (Green et al., 2003).

Although the (cancer) pain and treatment dyad has received overwhelming attention among the general population, evidence defining this relationship among older adults is less evident. To contribute to our understanding of patient satisfaction with pain treatment among older adults, this study aimed to determine the significance identified health, social, and behavioral characteristics have on satisfaction with pain treatment in a sample of older non-Hispanic Black and non-Hispanic White patients receiving outpatient cancer treatment services from a NCI-designated comprehensive cancer center. Determining the influence of social factors on satisfaction with pain treatment, beyond that of clinical indicators, is a strength of this study.

Method

Participants

Analyses were conducted from a multi-year project designed to determine existing social and behavioral constructs that influence the experience of cancer-related pain (due to diagnosis and/or treatment) in older non-Hispanic Black and White patients receiving services from an NCI-designated comprehensive cancer center in the southeast region of the United States.

Patients who self-identified as non-Hispanic Black or non-Hispanic White, ≥ 55 years of age, reported in the affirmative to experiencing pain (cancer-related), able to read and understand English, and able to provide consent were included for study participation. Data were collected through patient interviews on measures assessing demographic, physical and behavioral health, and social indicators. All patients were approached (and recruited) by a research assistant (RA), during the patient's medical visit (in the waiting area) to determine their interest and eligibility for study participation.

Each interview lasted approximately 45 min and was conducted in a private area in the clinic. Respondents received a monetary gift of $25.00 for study participation. This investigation was approved by the cancer center's Protocol Review Monitoring Committee and the university's institutional review board.

Measures

Primary outcome

Satisfaction with pain treatment. The American Pain Society's Patient Outcome Questionnaire (APS-POQ) is a 16-item measure used to quantify each patient's satisfaction with pain treatment. The APS-POQ has a total of four subscales: pain intensity, pain interference, satisfaction with pain management, and beliefs about pain and pain management. For purposes of this investigation, only the satisfaction with pain management subscale was examined. Each question was referenced to the patient's satisfaction with their treatment of cancer-related pain. Questions were measured on a 6-point numeric Likert-type scale, with higher scores indicating greater satisfaction with pain treatment. Response choices included the following: 0 = *very dissatisfied*, 1 = *dissatisfied*, 2 = *slightly dissatisfied*, 3 = *slightly satisfied*, 4 = *satisfied*, and 5 = *very satisfied*. (American Pain Society, 1995). Descriptive data of patient satisfaction with pain treatment were similarly analyzed. The satisfaction with pain treatment assessment for this sample was found to have moderate internal consistency ($\alpha = .70$).

Study covariates

Discrimination. The Everyday Discrimination Scale assessed experiences of unfair treatment, in different life domains, during the past year. Response choices were provided on a 6-point Likert-type scale (*almost every day* = 5 to *never* = 0; range = 0-50), with higher scores endorsing more perceived experiences of everyday discrimination. A composite summed item score was created by summing the items ($\alpha = .81$), with higher scores indicating greater perceived discrimination. Patients were also asked the main reason for their experiences with discrimination. Response choices included race,

gender, age, shade of skin color, ancestry, height or weight, and other (Williams, Yan, Jackson, & Anderson, 1997).

Trust. The seven-item trust summary scale, of the Primary Care Assessment Survey (PCAS), was used to measure the patient's level of trust with their primary medical oncologist. Sample item statements included completely trusting the doctor's judgment about medical care, feeling that the patient can tell their doctor anything, and the doctor always telling the truth. Each statement was scored on a 5-point Likert-type scale (*strongly agree* = 4 to *strongly disagree* = 0; range = 0-28), with lower summary scores suggesting less trust toward the provider (α = .81; Safran et al., 1998).

Communication. A summed composite score was determined using the five-item communication subscale of the PCAS. Sample items included attention the doctor gives to what the patient says and the doctor's instructions about symptoms to report. Each item was assessed on a six-point scale, with response choices ranging from *very poor* (0) to *excellent* (5) (range = 0-28). The communication measure was found to be highly reliable (α = .96), with higher summary scores signified a more positive communicative relationship between the patient and healthcare provider (Safran et al., 1998).

Chronic pain self-efficacy. Self-efficacy to cope with chronic pain was measured with the 13-item Chronic Pain Self-Efficacy Scale (CPSS). This measure consists of two subscales: pain self-efficacy (PSE) and self-efficacy for coping with other symptoms (CSE). For this investigation, only items from the PSE subscale were assessed, and was found to be reliable (five items; range = 10-100; α = .70). Items were summed into a composite score. Each question was scored on a 10-point numeric scale, with high scores denoting greater self-efficacy (Anderson, Dowds, Pelletz, Edwards, & Peeters-Asdourian, 1995).

Knowledge and experience with cancer pain. The Patient Pain Questionnaire (PPQ) is a validated 16-item (ordinal) scale measuring the knowledge and experience in managing cancer pain. The knowledge subscale includes nine items assessing how knowledgeable a patient is in taking pain medications and managing their pain (range = 0-10; α = .49). The experience subscale consists of seven items measuring pain relief, distress, and control of pain (range = 0-10; α = .45). Response choices were rated on an 11-point numeric scale, with higher scores endorsing a more negative outcome (Ferrell, Ferrell, Rhiner, & Grant, 1991; Ferrell & Rivera, 1997).

Health variables. A checklist of physical comorbidities assessed the presence of common medical illnesses (e.g., arthritis, diabetes mellitus). Type of cancer was assessed with a single-item question asking participants the type of cancer doctor diagnosed with. Type of pain medication was determined with a single-item question assessing treatments/medications the patient received for pain. The pain interference (impact on daily functioning) subscale of the Brief Pain Inventory (BPI), a 32-item quantitative measure designed to assess clinical pain, was included in the analyses to determine how much pain interfered with daily activities (seven items; α = .90). Response items were measured on an 11-point Likert-type scale, with higher summed scores indicating more interference with daily activities. For purposes of this study, a mean (total) pain severity score (composite of four single pain items: current, average, worst, and least pain) was included in subsequent analyses. Response choices were rated on an 11-point numeric summated rating scale (0-10; high scores indicating greater pain severity; Cleeland, 1998).

Demographic characteristics. Six demographic variables were included in the analyses: age, race, sex, income, education, and marital status. Age was scored in a continuous format. Education was assessed as the total number of years of formal schooling. Monthly income was coded as a categorical variable. The five nominal income categories included $0-499 to $2,000+. Marital status was assessed as married, living as married, separated, divorced, single/never married, or widowed. Race was examined via nominal categories, with those who identified as non-Hispanic Black/African American, or non-Hispanic White/Caucasian included in subsequent analyses.

Statistical analyses. Descriptive analyses were calculated to provide measure performance and a profile of the sample's demographic (age, sex, race, education, income, marital status), health (comorbidities, satisfaction with pain treatment, experience with pain, knowledge of pain, pain interference, pain severity, self-efficacy), and social (discrimination, communication, trust) characteristics. A series of bivariate correlations were calculated to determine a parsimonious model ($p < .05$) and to determine the strength of the associations between satisfaction with pain treatment and each study covariate. Categorical data were analyzed using the chi-square test statistic. The *t*-test statistic was used to determine mean group differences between the male and female participants. A forward stepwise logistic regression model was further specified to determine the odds ratio (OR) and 95% confidence intervals (CIs) for satisfaction with pain treatment (satisfied vs. not satisfied). Variable inclusion in the final model was based on significance level ($p < .05$) in separate preliminary analyses. Covariates entered in the final model included comorbidities, self-efficacy, communication, discrimination, and experience with pain. Statistical significance was determined with the probability of a Type I error ($p \leq .05$). All statistical analyses were conducted using SPSS version 22.0 (SPSS Inc., Chicago, IL, USA).

Table 1. Demographic and Socioeconomic Characteristics (N = 149).

Variable	$M \pm SD$	(n) %	Scale
Age	65.5 ± 7.69		
Sex (female)		(85) 57%	
Education level (≥HS)		(134) 93%	
Race (White)		(123) 83%	
Comorbidities	2.69 ± 2.21		
Type of cancer			
Lung		(17) 12%	
Breast		(26) 18%	
Receiving chemotherapy		50%	
Receiving palliative care		39%	
Overall patient satisfaction[a]	4.05 ± 1.15		0-5
Pain interference[b]	4.79 ± 2.47		0-10
Pain severity[b]	4.02 ± 1.92		0-10
Self-efficacy[c]	55.67 ± 18.89		10-100
Discrimination[d]	1.12 ± 2.33		0-50
Trust[c]	9.93 ± 2.62		0-28
Communication[c]	21.9 ± 4.13		0-28

Note. HS = high school.
[a]Variable coded from 0 = *very dissatisfied* to 5 = *very satisfied*.
[b]Higher scores indicate greater inference and pain severity.
[c]High scores endorse a positive rating.
[d]Higher score suggests more perceived discrimination.

Results

Demographic Characteristics

The sample included older non-Hispanic Black and non-Hispanic White patients (N = 149), with a mean age of 65.5 ± 7.7 years. More than half the sample was female and self-identified as non-Hispanic White. Patients reported moderate levels of pain severity (4.02 ± 1.92; 0-10), with comparable reports for pain interference (4.79 ± 2.47; 0-10) and chronic pain self-efficacy (55.67 ± 18.89; 0-100). Participants reported living with an average of two chronic medical conditions (2.7 ± 2.2) in addition to cancer. Other demographic and health characteristics are provided in Table 1.

Associations of Satisfaction With Pain Treatment With Study Covariates

Results in Table 2 show a significant positive association between patient satisfaction and number of chronic conditions (r = .23, p < .01), self-efficacy with pain treatment (r = .19, p < .05), and communication (r = .22, p < .01). Data further showed discrimination (r = −.21, p < .001) and experience with pain (r = −.19, p < .05) being negatively associated with patient satisfaction, suggesting reports of perceived discrimination and negative pain experiences being associated with less satisfaction with pain treatment.

Table 2. Association of Overall Patient Satisfaction With Study Covariates.

Variable	r	p value
Age	.15	.06
Race	−.07	.40
Sex	.04	.62
Education	−.09	.30
Income	−.77	.35
Marital status	−.06	.44
Comorbidities	.23	<.01
Self-efficacy	.19	<.05
Pain severity	−.04	.65
Pain interference	−.10	.24
Communication	.22	<.01
Discrimination	−.21	<.05
Experience with pain	−.19	<.05
Knowledge of pain	.02	.82

Note. Pearson product-moment statistic.

Table 3. Summary of Logistic Regression Analysis for Variables Predicting Satisfaction With Pain Treatment, Controlling for Study Covariates (N = 149).

Variable	B	SE	OR	95% CI
Comorbidities	.54*	.25	1.72	[1.04, 2.84]
Communication	.20*	.08	1.22	[1.03, 1.45]
Discrimination	−.29*	.14	.74	[0.56, 0.99]

Note. Variables initially tested: comorbidities, self-efficacy, communication, discrimination, experience with pain.
CI = confidence interval for OR. OR = odds ratio.
*p < .05.

Satisfaction With Pain Treatment

Satisfaction with pain treatment (i.e., satisfied vs. not satisfied) was calculated after controlling for important covariates (comorbidities, self-efficacy, discrimination, communication, and experience with pain) entered in the final model. Table 3 shows that patients who reported fewer comorbidities were more likely to be satisfied with their pain treatment (OR = 1.74, 95% CI [1.08, 2.81]). Similarly, effective communication with one's provider predicted a greater likelihood of being satisfied with treatment (OR = 1.23, 95% CI [1.05, 1.45]). In assessing the social indicators, patients who perceived being discriminated against predicted a greater likelihood of not being satisfied with their pain treatment (OR = .76, 95% CI [0.59, 0.99]). None of the demographic, health, or remaining social characteristics were significant indicators in the final model.

Sex Differences in Pain Treatment Satisfaction

Although sex differences in satisfaction with pain treatment is not the primary focus of this investigation, but of interest, descriptive data were analyzed. There were no

significant differences between males and females in satisfaction with pain treatment. There were similarly no significant sex differences regarding pain severity. Both male and female patients were comparable in reports of pain severity (4.11 ± 1.95 vs. 4.10 ± 1.90, $p = ns$).

Further analyses showed no significant associations in satisfaction with pain treatment and the study covariates for males. However, data showed significant relationships between satisfaction with pain treatment and comorbidities ($r = .22$, $p < .05$), self-efficacy ($r = .26$, $p < .05$), and perceived discrimination ($r = -.28$, $p < .05$) for the female patients. Similarly, results showed a positive correlation with satisfaction with treatment and communication ($r = .32$, $p < .01$) (females only). Additional analyses by sex included regression models with satisfaction with pain treatment as the primary outcome and comorbidities, communication, and discrimination as predictors entered in the final model. None of the covariates proved to be significant indicators of satisfaction with pain treatment. In further examining the outcome of multiple chronic conditions, males reported less chronic conditions than females (2.32 ± 1.94 vs. 2.98 ± 2.38; $p = ns$).

Discussion

Estimates of chronic pain range from 15% to 64%, which presents as a major public health concern in the United States (Hardt, Jacobsen, Goldberg, Nickel, & Buchwald, 2008; Portenoy, Ugarte, Fuller, & Haas, 2004). This statistic, along with identified social factors, elicits the nuances of the healthcare system designed to assist the needs of the patient, while addressing barriers to providing quality services to an aging population. Considering the needs of this adult cohort may begin to diminish the negative perceptions associated with the aging process, while addressing the contextual factors that influence treatment outcomes. Data from the current investigation begin to address this issue as it is one of very few studies that has examined the influence social and health factors have in reports of satisfaction with pain treatment among an older adult patient population receiving outpatient care.

Interesting data from this study showed that patients who reported poorer communication with their healthcare provider, more chronic medical conditions, and perceived discrimination were more likely to be less satisfied with their pain treatment. The influence of patient–physician communication has received increasing interest in understanding the dynamics this relationship has on the health and well-being of chronically ill patients. Data show that patients reporting a positive communicative relationship with their healthcare provider and who perceive their physician as friendly, empathetic, and socially engaging were more likely to be satisfied with their pain treatment (Eide, Graugaard, Holgersen, & Finset, 2003; Walker, Ristvedt, & Haughey, 2003). This is corroborated in a recent study showing that physicians who report understanding their patients' needs, and appropriately responding to them while acknowledging their pain complaints, characterized for an effective patient–physician relationship (Farin, Gramm, & Schmidt, 2012).

Data further show that specifically older adults, who are often stigmatized as not being able to effectively communicate with their provider, are less likely to be satisfied with their treatment if they do not value the relationship they have with their healthcare provider (Lewis, 2012). This suggests the need for a more open dialogue between the patient and provider, from the time of diagnosis to treatment (Song, Hamilton, & Moore, 2012). This substantiates the significance communication, dialogue, and interpretation of medical information has particularly among older patients diagnosed with multiple chronic illness (and health outcomes).

This is consistent with results from the current investigation showing comorbidities (count) as a significant indicator of satisfaction with pain treatment among this adult population. This finding complements the current literature documenting the influence a diagnosis of a medical condition has on health and symptomatic outcomes. Specific to older adults, data from the National Health Interview Survey show that adults 65+ years of age are diagnosed with at least two chronic conditions (of nine selected conditions; e.g., hypertension, cancer, diabetes; Freid, Bernstein, & Bush, 2012). Relevant to the current study, patients reported an average of two chronic illnesses (Table 1) in addition to their cancer diagnosis. This is shown in a number of studies documenting the prevalence of multiple chronic conditions among older adults, particularly those from diverse race populations (Baker, O'Connor, & Krok, 2014; Baker, O'Connor, Roker, & Krok, 2013; Baker & Whitfield, 2006; Grubert, Baker, McGeever, & Shaw, 2013). In managing these conditions, patients are often tasked with navigating receipt of treatment from more than one healthcare provider, which may result in increased frustration and/or anxiety thereby (possibly) diminishing their satisfaction with treatment.

Given the limited availability of clinical guidelines on the treatment of patients with multiple chronic conditions (Blozik, van den Bussche, Gurtner, Schäfer, & Scherer, 2013), and the absence of pathways defining effective methods to address the social and contextual factors influencing chronic disease management practices and patient satisfaction, general practitioners may be challenged with limited knowledge in sufficiently advising cancer patients on the most effective strategies to manage their health concerns.

Contributing to our understanding of social influences on patient satisfaction, results further established that patients who perceived being discriminated against were less likely to be satisfied with their treatment (pain). These findings are consistent with current data showing the impact discrimination (everyday) has on health outcomes (Baker & Whitfield, 2006; Baker et al.,

2014; Baker et al., 2013; Grubert et al., 2013; Pascoe & Richman, 2009). Thus, an individual's perception of being discriminated against, whether due to age, race, sex, or socioeconomic status, may explain compliance with treatment regimens and satisfaction with care (Greer, 2010; Quach et al., 2012).

One advantage of this investigation is that data were available to determine the source of perceived discrimination. Descriptive analyses showed age and race as reasons for reported discriminatory events (data not shown), with Whites reporting being discriminated against due to their age. Blacks, however, reported race as the primary reason for reported discrimination. These data are interesting in that the patients' perceptions of discrimination were attributed to different sources. Although it may be argued that the emotional trauma of believing that one is discriminated against due to their age is equally disturbing as race discrimination, the issue of age discrimination has received far less attention (Preacher & Hayes, 2008). Ageism, or perceived (negative) stereotypes based on a person's chronological age (Iversen, Larsen, & Solem, 2009), ranges from avoidance of contact with older adults to ageist language or segregation (Bodner, 2012). Yet, unlike racial discrimination, aging is an expected process (Hess & Kotter-Grühn, 2011). Finding (age) discrimination as a significant indicator shows the complexity and difficulty in parsing out this dynamic construct within the context of discriminatory acts, as it is shown to be a continuum of events as opposed to an isolated incident.

Sex Differences and Treatment

Although the intent of the current investigation was to determine indicators of satisfaction with pain treatment, exploratory analyses on the relationship between satisfaction with pain treatment among males and females showed interesting preliminary results. Although no differences were found between the two groups, results showed patient satisfaction being associated with several health and social indicators (self-efficacy, communication, discrimination, comorbidities) only for the female patients. Although preliminary, a brief discussion of these findings is needed. Previous analyses clearly show sex differences in the pain experience, with males and females reporting varying pain thresholds due to social and biological differences (processes, perceptions, reaction to pain; Bradbury, 2003; Cheung, Gagliese, & Zimmerman, 2011; Edrington et al., 2004; Fillingim, King, Ribeiro-Dasilva, Rahim-Williams, & Riley, 2009; Miaskowski, 2004). Current evidence shows that females report more pain experiences and negative responses to pain than their male counterparts. Furthermore, studies indicate differences in susceptibility to pain-related disease and analgesic effectiveness (Bijur et al., 2008; Fillingim, 2000). While documenting the existence of these differences, there is a need to determine the mechanism by which they occur and steps needed to extend the scientific literature in understanding the myriad of social and behavioral factors that place females at a disadvantage in having their pain effectively managed. In addition, there may be gender differences in how patients encounter the healthcare system, thereby influencing their satisfaction with treatment.

Given existing gender disparities, it is important that we actively incorporate applicable theories defining the clinical and behavioral experiences not only as patients but also as a group grounded in their identity, particularly among the female patients. We speculate that our small sample of males was the likely explanation for not observing a significant relationship between pain and the social and behavioral variables. Future research should seek to understand the relationship between pain severity and social and behavioral factors among males, as this will begin to augment research in their lived experiences and more accurately reflect the gendered context of their lives. The potential benefits of this approach are significant and could address questions of how socialization patterns and other factors characterize the health experience of males (and females) across a spectrum of social, economic, and demographic characteristics.

Although this study showed interesting findings in the association of patient satisfaction with pain treatment and identified social, health, and behavioral indicators, there are a few study limitations that must be acknowledged. First, the majority of the sample was non-Hispanic White, female, and well-educated; thus, generalizability of the study's findings to other race and socioeconomic groups is limited. Similarly, patient inclusion for study participation was limited to cancer patients receiving outpatient treatment at an NCI-designated comprehensive cancer center. This may exclude a more diverse (age, race, economic) patient population, which may be more likely to receive and/or seek treatment (and additional services) from smaller community-based facilities versus larger medical institutions (Ward et al., 2013). Another limitation is the number of males included in the study. The small sample of males may not have provided enough statistical power to calculate detect significant associations in satisfaction with pain treatment between males and females. Again, although explorative, this is something that should be addressed in future analyses, as there is a continued need to understand the underlying mechanisms of the pain experience among adult males.

In addition, although identified as a limitation, the inclusion of everyday discrimination may be similarly seen as a strength in understanding the impact this social construct has among older adults. While it is recognized that our data were collected in a clinic setting, and discrimination was based on everyday experiences as opposed to assessing medical discrimination, we strategically examined the dynamics of the day-to-day lived experiences of discrimination, thus recognizing that health is based on relations and interactions of social,

behavioral, and cultural occurrences and not in isolated incidences within the clinic setting.

Findings from this study make a significant contribution in understanding the influence social variables have on patient satisfaction with pain treatment in older adults. Future research should be directed at developing theoretical and clinical models that assess the extent social, behavioral, and cultural factors have of treatment satisfaction, while tending to the needs of our growing adult population.

Declaration of Conflicting Interests

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